



## A-LEVEL/AS-LEVEL CHEMISTRY

### EDEXCEL (8080/9080)

**Qualifications Required:** None

**Qualifications Preferred:** GCSE Chemistry/GCSE Science and GCSE Mathematics

**Details Of Examination:**

Unit	Description	Duration	AS-Level	A-Level
Unit 1	Written Paper	1hr	30%	15%
Unit 2	Written Paper	1hr	30%	15%
Unit 3A	Internal Assessment		20%	10%
Unit 3B	Written Paper	1 hr	20%	10%
Unit 4	Written Paper	1hr 30min		15%
Unit 5	Written Paper	1hr 30min		15%
Unit 6A	Internal Assessment			10%
Unit 6B	Synoptic Paper	1hr 30min		10%

#### Notes

- i) Units 1-3 comprise the AS level course and units 4-6 the A2 part of the course.
- ii) Internal practical assessment involves approximately 30 experiments of which approximately 4 will be assessed for each of units 3A and 6A
- iii) Students starting a one year course will normally sit units 1-3 in January and units 4-6 in June. Students starting a two year course will normally sit units 1-3 in the first June and units 4-6 in the second January and/or June. Students starting an 18 month course will normally sit units 1-3 in the first June and units 4-6 in the second January and/or June. Students starting a one term course will sit the appropriate modules in January.

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## **Basic Textbooks**

A-Level Chemistry	Ramsden	
Inorganic, Organic Reactions	Davies & Kelly	Mills & Boon
<i>Structure, Bonding and Periodic Table</i>	<i>Dr. Rod Beavon</i>	<i>Nelson</i>
<i>Principles of Physical and Organic Chemistry</i>	<i>Alan Jarvis</i>	<i>Nelson</i>
<i>Physical and Inorganic Applications</i>	<i>Rod Beavon, Alan Jarvis</i>	<i>Nelson</i>
<i>Organic Pathways: Synthesis &amp; Analysis</i>	<i>Brian Chapman</i>	<i>Nelson</i>

## **OUTLINE SYLLABUS**

### ***Unit 1: Structure, bonding and main group chemistry***

- 1.1 Atomic Structure
- 1.2 Formulae, Equations and Moles
- 1.3 Structure and Bonding
- 1.4 Periodic Table I
- 1.5 Introduction to Oxidation and Reduction
- 1.6 Group 1 and Group 2
- 1.7 Group 7

### ***Unit 3: Laboratory Chemistry I***

- 3.1A Assessment of Experimental Skills I
- 3.1B Laboratory Chemistry

### ***Unit 5: Transition Metals, quantitative kinetics and applied organic chemistry***

- 5.1 Redox Equilibria (Applications)
- 5.2 Transition Metal Chemistry
- 5.3 Organic Chemistry III (mechanisms, aromatic)
- 5.4 Chemical Kinetics II
- 5.5 Organic Chemistry IV (synthesis, analysis)

### ***Unit 2: Introductory organic chemistry, energetics, kinetics and equilibrium and applications***

- 2.1 Energetics I
- 2.2 Organic Chemistry I
- 2.3 Kinetics I
- 2.4 Chemical Equilibria I
- 2.5 Industrial Inorganic Chemistry

### ***Unit 4: Periodicity, quantitative equilibria and functional group chemistry***

- 4.1 Energetics II
- 4.2 Periodic Table II (Period 3 and Group 4)
- 4.3 Chemical Equilibria II
- 4.4 Acid-Base Equilibria
- 4.5 Organic Chemistry II

### ***Unit 6: Laboratory Chemistry II***

- 6.1A Assessment of Experimental Skills II
- 6.1B Synoptic

## **The Course**

The course is designed to offer a firm foundation for students who will continue their studies in this or related subjects such as medicine, dentistry and engineering, while at the same time stimulating students' enjoyment and interest in Chemistry. Analytical and practical skills will be developed together with an awareness of chemistry in a social, economic and environmental context which are of relevance to all students irrespective of whether chemistry is a student's primary subject. The AS level course is ideally suited to those students who would prefer a scientific contrast to their arts subjects as well as to those scientists for whom chemistry is not their major discipline.